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| --- | --- | --- | --- | --- | --- | --- | --- |
| **短管支撑式蜂窝夹套强度校核** | | | 计算单位 |  | | | |
| 计算所依据的标准 | | | | **HG/T 20569-2013** | | | |
| **计 算 条 件** | | | | **简 图** | | | |
| 设计温度, t | | °C | **$$001** | $06  $07  $21  $23  $13  $14  $11  $15  $12 | | | |
| 容 器 | 材料标准号 | **$$002** | |
| 材料牌号/名称 | **$$003** | |
| 设计压力, Psd | MPa | **$$004** |
| 介质静压力, Pss | MPa | **$$005** |
| 内直径, Dsi | mm | **$$006** |
| 名义厚度, δsn | mm | **$$007** |
| 腐蚀裕量, Cs2 | mm | **$$008** |
| 短 管 | 材料标准号 | **$$009** | |
| 材料牌号/名称 | **$$010** | |
| 容器和夹套平均  半径处轴向节距, tP | mm | **$$011** |
| 容器和夹套平均  半径处周向节距, tT | mm | **$$012** |
| 外直径, dpo | mm | **$$013** |
| 名义厚度, δpn | mm | **$$014** |
| 连接焊缝腰高, a | mm | **$$015** |
| 腐蚀裕量, Cp2 | mm | **$$016** |
| 夹 套 | 材料标准号 | **$$017** | |
| 材料牌号/名称 | **$$018** | |
| 设计压力, Pjd | MPa | **$$019** |
| 介质静压力, Pjs | MPa | **$$020** |
| 腔体厚度, e | mm | **$$021** |
| 计算长度, l | mm | **$$022** |
| 名义厚度, δjn | mm | **$$023** |
| 腐蚀裕量, Cj2 | mm | **$$024** |
| 压力试验类型 | | **$$025** | |
| **材 料 特 性** | | | | | | | |
| 容器 | 密度, ρs | kg/m³ | **$$026** | 夹套 | 密度, ρj | kg/m³ | **$$037** |
| 设计温度许用应力, [σ]st | MPa | **$$027** | 设计温度许用应力, [σ]jt | MPa | **$$038** |
| 试验温度许用应力, [σ]s | MPa | **$$028** | 试验温度许用应力, [σ]j | MPa | **$$039** |
| 抗拉/屈服控制应力, [σ]st1 | MPa | **$$029** | 抗拉/屈服控制应力, [σ]jt1 | MPa | **$$040** |
| 试验温度屈服点, RseL | MPa | **$$030** | 试验温度下屈服点, RjeL | MPa | **$$041** |
| 设计温度弹性模量, Est | 103MPa | **$$031** | 设计温度弹性模量, Ejt | 103MPa | **$$042** |
| 负偏差, Cs1 | mm | **$$032** | 负偏差, Cj1 | mm | **$$043** |
| 短管 | 密度, ρp | kg/m³ | **$$033** | 抗拉和屈服强度控制的应力, [σ]pt1 | | MPa | **$$044** |
| 设计温度许用应力, [σ]pt | MPa | **$$034** | 试验温度屈服点, RpeL | | MPa | **$$045** |
| 试验温度许用应力, [σ]p | MPa | **$$035** | 负偏差, Cp1 | | mm | **$$046** |
| 设计温度弹性模量, Ept | 103MPa | **$$036** | / | | | |
| **过 程 参 数 计 算** | | | | | | | |
| 容器 | 厚度附加量, Cs | mm |  | | | | **$$047** |
| 有效厚度, δse | mm |  | | | | **$$048** |
| 计算压力, Psc | MPa |  | | | | **$$049** |
| 夹套 | 内直径, Dji | mm |  | | | | **$$050** |
| 厚度附加量, Cj | mm |  | | | | **$$051** |
| 有效厚度, δje | mm |  | | | | **$$052** |
| 计算压力, Pjc | MPa |  | | | | **$$053** |
| 蜂窝短管 | 内直径, dpi | mm |  | | | | **$$054** |
| 厚度附加量, Cp | mm |  | | | | **$$055** |
| 有效厚度, δpe | mm |  | | | | **$$056** |
| 有效节距, to | mm |  | | | | **$$057** |
| **蜂 窝 短 管 结 构 尺 寸 校 核** | | | | | | | |
| 周向圆心角, δT | | ° |  | | | | **$$058** |
| 许用周向圆心角, [δT] | | ° |  | | | | **$$059** |
| 周向圆心角校核 | | / |  | | | | **$$060** |
| 节距比 | | / |  | | | | **$$061** |
| 节距比校核 | | / |  | | | | **$$062** |
| 最小内直径, dmin | | mm |  | | | | **$$063** |
| 直径校核 | | / |  | | | | **$$064** |
| **夹 套 内 压 校 核** | | | | | | | |
| 连接强度系数, f1 | | / |  | | | | **$$065** |
| 容器壁限制的  夹套许用内压力, [Ps2] | | MPa |  | | | | **$$066** |
| 相对反力矩系数, m | | / |  | | | | **$$067** |
| 连接强度系数, f2 | | / |  | | | | **$$068** |
| 夹套壁限制的  夹套许用内压力, [Pj2] | | MPa |  | | | | **$$069** |
| 夹套最大允许工作压力, Pmawp | | MPa |  | | | | **$$070** |
| 夹套内压校核 | | / |  | | | | **$$071** |
| **节 距 校 核** | | | | | | | |
| 计算节距, t1 | | mm |  | | | | **$$072** |
| 计算节距, t2 | | mm |  | | | | **$$073** |
| 节距校核 | | / |  | | | | **$$074** |
| **容 器 筒 体 厚 度 校 核** | | | | | | | |
| 计算厚度, δsc | | mm |  | | | | **$$075** |
| 设计厚度, δsd | | mm |  | | | | **$$076** |
| 厚度校核 | | / |  | | | | **$$077** |
| **容 器 筒 体 失 稳 校 核** | | | | | | | |
| 筒体厚径比, δse/Dsi | | / | δse/Dsi | | | | **$$078** |
| 临界厚径比, [δse/Dsi] | | / |  | | | | **$$079** |
| 筒体外压校核 | | / |  | | | | **$$080** |
| **夹 套 筒 体 厚 度 校 核** | | | | | | | |
| 计算厚度, δjc | | mm |  | | | | **$$081** |
| 设计厚度, δjd | | mm |  | | | | **$$082** |
| 厚度校核 | | / |  | | | | **$$083** |
| **夹 套 边 缘 距 离 计 算** | | | | | | | |
| 夹套边缘至第一排蜂窝短管  中心线的最大轴向距离, [tL] | | mm |  | | | | **$$084** |
| 夹套边缘至第一排蜂窝短管  中心线的最大周向距离, [tK] | | mm |  | | | | **$$085** |
| **蜂 窝 短 管 厚 度 校 核** | | | | | | | |
| 载荷系数, η | | / |  | | | | **$$086** |
| 计算厚度, δpc | | mm |  | | | | **$$087** |
| 设计厚度, δpd | | mm |  | | | | **$$088** |
| 厚度校核 | | / |  | | | | **$$089** |
| **蜂 窝 短 管 角 焊 缝 校 核** | | | | | | | |
| 蜂窝短管与容器/夹套  连接处角焊缝最小腰高, [a] | | mm |  | | | | **$$090** |
| 角焊缝校核 | | / |  | | | | **$$091** |
| **夹 套 压 力 试 验** | | | | | | | |
| 试压系数, ζ | | / |  | | | | **$$092** |
| 试验压力值, PJT | | MPa |  | | | | **$$093** |

注：内筒体及夹套焊接接头系数均为1.0。